

Case 3662***Siphonichnus* Stanistreet, le Blanc Smith & Cadle, 1980 (trace fossil): proposed conservation by granting precedence over the senior subjective synonym *Ophthalmichnium* Pfeiffer, 1968**

Dirk Knaust

Statoil ASA, N-4035 Stavanger, Norway (e-mail: dkna@statoil.com)

Abstract. The purpose of this application, under Article 23.9.3 of the Code, is to conserve the widely used name *Siphonichnus* Stanistreet, le Blanc Smith & Cadle, 1980 in its accustomed usage for an ichnogenus by giving it precedence over its senior subjective synonym, *Ophthalmichnium* Pfeiffer, 1968, which has been used very rarely since it was first proposed. *Planolites ophthalmoides* Jessen, 1950, the type ichnospecies of *Ophthalmichnium*, is a senior subjective synonym of *Siphonichnus ecccaensis* Stanistreet, le Blanc Smith & Cadle, 1980, the type ichnospecies of *Siphonichnus* which has important applied uses in coal-bed geology and hydrocarbon exploration and production.

Keywords. Nomenclature; ichnotaxonomy; *Siphonichnus*; *Ophthalmichnium*; *Planolites*; *Siphonichnus ecccaensis*; *Planolites ophthalmoides*; trace fossils

1. The ichnogenus *Siphonichnus* was introduced by Stanistreet et al. (1980) from Lower Permian delta deposits of South Africa to describe cylindrical burrows consisting of a thick laminated wall around a homogeneous tubular core, with *Siphonichnus ecccaensis* as its type ichnospecies (p. 343, fig. 14) by original designation. Until 2012, only the type ichnospecies of *Siphonichnus* had been described from Upper Devonian (Angulo & Buatois, 2012) to Holocene (Gingras et al., 2008) deposits of many places around the world. In their recent review, Zonneveld & Gingras (2013) redefined *Siphonichnus* and included three further ichnospecies.

2. Trace fossils resembling *Siphonichnus* were described from Germany long before this ichnogenus was named (Rücklin, 1934, pp. 89–96, figs. 3–5; Gothan, 1932). Jessen (1950, pp. 34–35, figs. 1, 3) described burrows from the Upper Carboniferous of West Germany and described the ichnospecies *Planolites ophthalmoides* for them, based on the eye-like appearance of the burrows in cross-section. A specimen with the catalogue number Kar. 1 in the collection of the Geologischer Dienst (Geological Survey) Nordrhein-Westfalen in Krefeld was designated by Jessen (1950, pp. 34–35, figs. 1, 2) as the holotype of *Planolites ophthalmoides*. During the publication of his work, Jessen (1950) became aware of work done by Desio (1940) and mentioned in a footnote (p. 34) that *Planolites ophthalmoides* could potentially be synonymous with *Sabellarifex parvus* Desio, 1940 (pp. 74–75, pl. IX, fig. 1), which would have implications for the type ichnospecies of the ichnogenus *Siphonichnus* (see below under point 5, 2b), although Schlirf & Uchman (2005) included *Sabellarifex parvus* in the ichnogenus *Skolithos*. Müller (1955, p. 657, figs. 1, 2) proposed the ichnospecies *Planolites? vermiculare* from the Upper Permian (Zechstein) of central Germany, but

its internal composition as well as the vertically orientated burrow parts in both suggest this ichnospecies and *P. ophthalmoides* are incompatible with the diagnosis of *Planolites* Nicholson, 1873 (Pemberton & Frey, 1982). Addressing this incompatibility, Pfeiffer (1968, p. 691) proposed the ichnogenus *Ophthalmichnium* based on the type ichnospecies *Planolites ophthalmoides*. *Ophthalmichnium* did not find wide usage subsequently, being used as valid only by Suhr (1989), probably because Häntzschel (1975, p. W97) regarded *Ophthalmichnium* (misspelled as *Ophthalmidium*) as a superfluous name. Lehotsky (2010), in an online publication (an unpublished museum catalogue) referred to *Ophthalmichnium zonatum* Pek, 1986, which is now identified as *Chondrites* isp. Franke et al. (1988), in another publication mentioned *Ophthalmichnium*.

3. Because herein, the morphology of *Planolites ophthalmoides* is essentially considered identical with that of *Siphonichnus ecccaensis* (the type ichnospecies of *Siphonichnus*), the two nominal species are subjective synonyms, with the former having priority. In accordance with Article 23.1 of the Code, the ichnospecies name *ophthalmoides* Jessen, 1950 (published in the binomen *Planolites ophthalmoides*, later in the ichnogenus *Ophthalmichnium*) must be regarded as the oldest available name applied to this ichnospecies and thus has priority over the ichnospecies name *ecccaensis* Stanistreet, le Blanc Smith & Cadle, 1980 (published in the binomen *Siphonichnus ecccaensis*). The ichnospecies *ophthalmoides* in combination with the generic name *Ophthalmichnium* has rarely been used after its introduction by Pfeiffer (1968) and its usage by Suhr (1989) and a mention in a synonymy list by Pemberton & Frey (1982) are the only occurrences known to the author, aside from an unpublished master's thesis with a newly introduced ichnospecies (Pek, 1986). Consequently, the ichnospecies name *ophthalmoides* Jessen, 1950 should be used in preference to *ecccaensis* Stanistreet, le Blanc Smith & Cadle, 1980. *Siphonichnus* is a widely used ichnogenus (Stanistreet et al., 1980; Raychaudhuri et al., 1992; MacEachern et al., 1992, 1999, 2005; Taylor & Gawthorpe, 1993; Keswani & Pemberton, 1993; Pemberton & MacEachern, 1995; Martin & Pollard, 1996; Zonneveld et al., 2001; Pemberton et al., 2004; MacEachern & Hobbs, 2004; McIlroy, 2004, 2007; Gingras & Bann, 2006; Fielding et al., 2007; Coates & MacEachern, 2007; Dafoe & Pemberton, 2007; MacEachern & Gingras, 2007; Yang et al., 2007, 2008; MacEachern & Bann, 2008; Angulo & Buatois, 2010, 2012a, b; Knaust, 2010, 2014; Dashtgard, 2011; Buatois & Mángano, 2011; Ekdale et al., 2012) and should be granted precedence over *Ophthalmichnium* in order to maintain ichnotaxonomic stability. In accordance with Article 23.9.3 of the Code, this matter is being brought to the attention of the Commission for a ruling.

4. *Siphonichnus ophthalmoides* (and its synonyms) appears to be an important indicator of marginal-marine environments and marine transgressions. It has, therefore, received much attention for more than 80 years, first for recognising marine influence between paralic coal seams in coal mines of West Germany (Gothan, 1932; Jessen, 1950; Fiebig, 1956; Seilacher, 1963, 1964), England (Woodland et al., 1957; Smith et al., 1967; Calver, 1968a, b; Pollard, 1988), Ireland (Eager, 1964), South Africa (Stanistreet et al., 1980), and East Germany (Suhr, 1989), and later in connection with hydrocarbon exploration globally (e.g. Taylor & Gawthorpe, 1993; Pemberton & MacEachern, 1995; Martin & Pollard, 1996; Gowland, 1996; Pemberton et al., 2004; Ekdale et al., 2012). Most of the reports and descriptions of

Siphonichnus ophthalmoides (and its synonyms) have been made from drilling cores, a fact that illustrates its economic importance. Needless to say, a robust ichno-taxonomy is required to recognise this important trace fossil and to use it for palaeoenvironmental and sedimentological reconstructions.

5. The International Commission on Zoological Nomenclature is accordingly asked:

- (1) to use its plenary power to give the name *Siphonichnus* Stanistreet, le Blanc Smith & Cadle, 1980 precedence over the name *Ophthalmichnium* Pfeiffer, 1968, whenever the two are considered to be synonyms;
- (2) to place on the Official List of Generic Names in Zoology the following names:
 - (a) *Siphonichnus* Stanistreet, le Blanc Smith & Cadle, 1980, type species *Siphonichnus eccaensis* Stanistreet, le Blanc Smith & Cadle, 1980 by original designation, with the endorsement that it is to be given precedence over the name *Ophthalmichnium* Pfeiffer, 1968, whenever the two are considered to be synonyms;
 - (b) *Ophthalmichnium* Pfeiffer, 1968, type species *Planolites ophthalmoides* Jessen, 1950 by original designation, with the endorsement that it is not to be given priority over the name *Siphonichnus* Stanistreet, le Blanc Smith & Cadle, 1980, whenever the two are considered to be synonyms;
- (3) to place on the Official List of Specific Names in Zoology the name *ophthalmoides* Jessen, 1950, as published in the binomen *Planolites ophthalmoides*, the type species of *Ophthalmichnium* Pfeiffer, 1968.

References

- Angulo, S. & Buatois, L.A. 2010. *Sedimentary facies distribution of the Upper Devonian–Lower Mississippian Bakken Formation, Williston Basin, southeastern Saskatchewan: Implications for understanding reservoir geometry, paleogeography, and depositional history: Summary of investigations*. 1, 18 pp. Saskatchewan Geological Survey, Saskatchewan Ministry of Energy and Resources, Miscellaneous Report 2010–4.1, Paper A-4.
- Angulo, S. & Buatois, L.A. 2012a. Ichnology of a Late Devonian–Early Carboniferous low-energy seaway: The Bakken Formation of subsurface Saskatchewan, Canada: Assessing paleoenvironmental controls and biotic responses. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **315–316**: 46–60.
- Angulo, S. & Buatois, L.A. 2012b. Integrating depositional models, ichnology, and sequence stratigraphy in reservoir characterization: The middle member of the Devonian–Carboniferous Bakken Formation of subsurface southeastern Saskatchewan revisited. *AAPG Bulletin*, **96**: 1017–1043.
- Buatois, L.A. & Mángano, M.G. 2011. *Ichnology. Organism-Substrate Interactions in Space and Time*. 366 pp. Cambridge University Press, Cambridge.
- Calver, M.A. 1968a. Coal Measures invertebrate faunas. Pp. 147–177 in Murchison, D.G. & Westoll, T.S. (Eds.), *Coal and coal bearing strata*. Oliver & Boyd, London.
- Calver, M.A. 1968b. Distribution of Westphalian marine faunas in northern England and adjoining areas. *Proceedings of the Yorkshire Geological Society*, **37**: 1–72.
- Coates, L. & MacEachern, J.A. 2007. The ichnological signatures of river- and wave-dominated delta complexes: differentiating deltaic and non-deltaic shallow marine successions, Lower Cretaceous Viking Formation and Upper Cretaceous Dunvegan Formation, west-central Alberta. Pp. 227–254 in MacEachern, J.A., Bann, K.L., Gingras, M.K. & Pemberton, S.G. (Eds.), *Applied ichnology*, vol. 52. SEPM Short Course Notes.
- Dafoe, L.T. & Pemberton, S.G. 2007. Ichnological assemblages of wave-influenced and mixed river- and wave influenced deltaic deposits in the Viking Formation, Alberta, Canada. Pp.

- 291–306 in MacEachern, J.A., Bann, K.L., Gingras, M.K. & Pemberton, S.G. (Eds.), *Applied ichnology*, vol. 52. SEPM Short Course Notes.
- Dashtgard, S.E.** 2011. Neoichnology of the lower delta plain: Fraser River Delta, British Columbia, Canada: Implications for the ichnology of deltas. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **307**: 98–108.
- Desio, A.** 1940. Vestigia problematiche paleozoiche della Libia. *Pubblicazioni dell'Istituto di Geologia, Paleontologia e Geografia Fisica della R. Università di Milano, Serie P.*, **20**: 47–92.
- Eager, R.M.C.** 1964. The succession and correlation of the Coal Measures of south-eastern Ireland. Pp. 359–374 in *Comptes Rendus du Cinquième Congrès de la Stratigraphie et de la Géologie Carbonifère (Paris, 1963)*, vol. 1. Louis-Jean, Paris.
- Ekdale, A.A., Bromley, R.G. & Knaust, D.** 2012. The ichnofabric concept. Pp. 139–155 in Knaust, D. & Bromley, R.G. (Eds.), *Trace Fossils as Indicators of Sedimentary Environments. Developments in Sedimentology*, vol. 64. Elsevier, Oxford.
- Fiebig, H.** 1956. Einige Bemerkungen zum Vorkommen von *Planolites ophthalmoides* Jessen im Ruhroberkarbon. *Neues Jahrbuch für Geologie und Paläontologie, Monatshefte*, **1956**: 214–221.
- Fielding, C.R., Bann, K.L. & Trueman, J.D.** 2007. Resolving the architecture of a complex, low-accommodation unit using high-resolution sequence stratigraphy and ichnology: The Late Permian Freitag Formation in the Denison Trough, Queensland, Australia. Pp. 179–208 in MacEachern, J.A., Bann, K.L., Gingras, M.K. & Pemberton, S.G. (Eds.), *Applied Ichnology*, vol. 52. SEPM Short Course Notes.
- Franke, D., Kahlert, E., Meissner, B. & Weyer, D.** 1988. Das Präperm der übertiefen Forschungsbohrung Parchim 1/68. *WTI (Wissenschaftlich-Technischer Informationsdienst des Zentralen Geologischen Instituts)*, **29**: 1–47, Berlin.
- Gingras, M.K. & Bann, K.L.** 2006. The bend justifies the leans: interpreting recumbent ichnofabrics. *Journal of Sedimentary Research*, **76**: 483–492.
- Gingras, M.K., Dashtgard, S.E., MacEachern, J.A. & Pemberton, S.G.** 2008. Biology of shallow-marine ichnology: a modern perspective. *Aquatic Biology*, **2**: 255–268.
- Gothan, W.** 1932. Paläobotanisch-stratigraphische Arbeiten im Westen des Ruhrreviers (mit Ausblicken auf die Nachbarreviere). *Arbeiten aus dem Institut für Paläobotanik und Petrographie der Brennsteine*, **2**: 165–206.
- Gowland, S.** 1996. Facies characteristics and depositional models of highly bioturbated shallow marine siliciclastic strata: an example from the Fulmar Formation (Late Jurassic), U.K. Central Graben. Pp. 185–214 in Hurst, A. et al. (Eds.), *Geology of the Humber Group: Central Graben and Moray Firth, UKCS*, vol. 114. Geological Society, London, Special Publication.
- Häntzschel, W.** 1975. Trace fossils and problematica. In Teichert, C. (Ed.), *Treatise on Invertebrate Paleontology, Part W, Miscellanea, Supplement 1*. Pp. W1–W269. Geological Society of America and University of Kansas Press, Boulder, Colorado & Lawrence, Kansas, U.S.A.
- Jessen, W.** 1950. “Augenschiefer”-Grabgänge, ein Merkmal für Faunenschiefer-Nähe im westfälischen Oberkarbon. *Zeitschrift der Deutschen Geologischen Gesellschaft*, **101**: 23–43.
- Keswani, A.D. & Pemberton, S.G.** 1993. Sedimentology, ichnology, and paleoecology of the Mississippian Midale carbonates in the Willistone Basin, Radville area, Saskatchewan: preliminary interpretations. Pp. 206–228 in Karvonen, R., Den Haan, J., Jang, K., Robinson, D. Smith, G., Webb, T. & Wittenberg, J. (Eds.), *Carboniferous to Jurassic Pangea: Core workshop guidebook*. Canadian Society of Petroleum Geologists.
- Knaust, D.** 2010. The end-Permian mass extinction and its aftermath on an equatorial carbonate platform: insights from ichnology. *Terra Nova*, **22**: 195–202.
- Knaust, D.** 2014. Classification of bioturbation-related reservoir quality in the Khuff Formation (Middle East): towards a genetic approach. Pp. 247–267 in Pöppelreiter, M.C. (Ed.), *Permo-Triassic sequence of the Arabian Plate*. EAGE, Amsterdam.
- Lehotský, T.** 2010. *Trace fossils in Palacký University Collection. Collection of Ilja Pek, Jan Zapletal and Tomáš Lehotský*. Palacký University in Olomouc Faculty of Natural Science, Department of Geology. Olomouc.

- MacEachern, J.A. & Bann, K.L.** 2008. The role of ichnology in refining shallow marine facies models. Pp. 73–116 in Hampson, G.J. (Ed.), *Recent advances in models of siliciclastic shallow-marine stratigraphy*, vol. 90. SEPM Special Publication.
- MacEachern, J.A., Bann, K.L., Bhattacharya, J.P. & Howell, C.D. Jr.** 2005. Ichnology of deltas: organism responses to the dynamic interplay of rivers, waves, storms and tides. Pp. 49–86 in Giosan, L. & Bhattacharya, J.P. (Eds.), *River deltas – concepts, models, and examples*, vol. 83. SEPM Special Publication.
- MacEachern, J.A., Bechtel, D.J. & Pemberton, S.G.** 1992. Ichnology and sedimentology of transgressive deposits, transgressively-related deposits and transgressive systems tracts in the Viking Formation of Alberta. Pp. 251–290 in Pemberton, S.G. (Ed.), *Applications of ichnology to petroleum exploration*, vol. 17. SEPM Core Workshop.
- MacEachern, J.A. & Gingras, M.K.** 2007. Recognition of brackish-water trace-fossil suites in the Cretaceous Western Interior Seaway of Alberta, Canada. Pp. 149–193 in Bromley, R.G., Buatois, L.A., Mángano, M.G., Genise, J.F. & Melchor, R.N. (Eds.), *Organism-sediment interactions: a multifaceted ichnology*, vol. 88. SEPM Special Publication.
- MacEachern, J.A. & Hobbs, T.W.** 2004. The ichnological expression of marine and marginal marine conglomerates and conglomeratic intervals, Cretaceous Western Interior Seaway, Alberta and northeastern British Columbia. *Bulletin of Canadian Petroleum Geology*, **52**: 77–104.
- MacEachern, J.A., Zaitlin, B.A. & Pemberton, S.G.** 1999. A sharp-based sandstone of the Viking Formation, Joffre Field, Alberta, Canada: Criteria for recognition of transgressively incised shoreface complexes. *Journal of Sedimentary Research*, **69**: 876–892.
- Martin, M.A. & Pollard, J.E.** 1996. The role of trace fossil (ichnofabric) analysis in the development of depositional models for the Upper Jurassic Fulmar Formation of the Kittiwake Field (Quadrant 21 UKCS). Pp. 163–183 in Hurst, A. et al. (Eds.), *Geology of the Humber Group: Central Graben and Moray Firth, UKCS*, vol. 114. Geological Society, London, Special Publication.
- McIlroy, D.** 2004. Ichnofabrics and sedimentary facies of a tide-dominated delta: Jurassic Ile Formation of Kristin Field, Haltenbanken, Offshore Mid-Norway. Pp. 237–272 in McIlroy, D. (Ed.), *The application of ichnology to palaeoenvironmental and stratigraphic analysis*, vol. 228. Geological Society, London, Special Publications.
- McIlroy, D.** 2007. Lateral variability in shallow marine ichnofabrics: implications for the ichnofabric analysis method. *Journal of the Geological Society, London*, **164**: 359–369.
- Müller, A.H.** 1955. Das erste Benthos (*Planolites ? vermiculare* n. sp.) aus dem Stinkschiefer Mitteldeutschlands (Zechstein, Staßfurtserie). *Geologie*, **4**: 655–659.
- Nicholson, H.A.** 1873. Contributions to the study of the errant annelides of the older Palaeozoic rocks. *Proceedings of the Royal Society of London*, **21**: 288–290 (also *Geological Magazine*, **10**: 309–310).
- Pek, I.** 1986. *Ichnofosilie moravskoslezského kulmu*. CSc. Thesis, MS. Palacký University Olomouc.
- Pemberton, S.G. & Frey, R.W.** 1982. Trace fossil nomenclature and the *Planolites-Palaeophycus* dilemma. *Journal of Paleontology*, **56**: 843–881.
- Pemberton, S.G. & MacEachern, J.A.** 1995. The sequence stratigraphic significance of trace fossils: examples from the Cretaceous foreland basin of Alberta, Canada. Pp. 429–475 in Van Wagoner, J.C. & Bertram, G.T. (Eds.), *Sequence stratigraphy of foreland basin deposits*, vol. M 64. AAPG Special Volume.
- Pemberton, S.G., MacEachern, J.A. & Saunders, T.** 2004. Stratigraphic applications of substrate-specific ichnofacies: delineating discontinuities in the rock record. Pp. 29–62 in McIlroy, D. (Ed.), *The application of ichnology to palaeoenvironmental and stratigraphic analysis*, vol. 228. Geological Society, London, Special Publications.
- Pfeiffer, H.** 1968. Die Spurenfossilien des Kulms (Dinants) und Devons der Frankenwälder Querzone (Thüringen). *Jahrbuch für Geologie*, **2**: 651–717.
- Pollard, J.E.** 1988. Trace fossils in coal-bearing sequences. *Journal of the Geological Society, London*, **145**: 339–350.
- Raychaudhuri, I., Brekke, H.G., Pemberton, S.G. & MacEachern, J.A.** 1992. Depositional facies and trace fossils of a low wave energy shoreface succession, Albian Viking

- Formation, Chigwell field, Alberta, Canada. Pp. 319–337 in Pemberton, S.G. (Ed.), *Applications of ichnology to petroleum exploration*, vol. 17. SEPM Core Workshop.
- Richter, R.** 1921. Flachseebeobachtungen II. *Scolithus*, *Sabellarifex* und *Geflechtquarzite*. *Senckenbergiana*, **3**: 49–52.
- Rücklin, H.** 1934. Über Wurmsspuren im Voltziensandstein des Nordsaargebiets. *Badische Geologische Abhandlungen*, **1934**: 81–99.
- Schlirf, M. & Uchman, A.** 2005. Revision of the ichnogenus *Sabellarifex* Richter, 1921 and its relationship to *Skolithos* Haldeman, 1840 and *Polykladichnus* Fürsich, 1981. *Journal of Systematic Palaeontology*, **3**: 115–131.
- Seilacher, A.** 1963. Lebensspuren und Salinitätsfazies. *Fortschritte in der Geologie von Rhein-land und Westfalens*, **10**: 81–94.
- Seilacher, A.** 1964. Biogenic sedimentary structures. Pp. 296–316 in Imbrie, J. & Newell, N.D., *Approaches to paleoecology*. John Wiley & Sons, Inc., New York.
- Smith, E.G., Rhys, G.L. & Eden, R.A.** 1967. Geology of the Country around Chesterfield, Matlock and Mansfield. *Memoirs of the Geological Survey of England and Wales*, 433 pp. London.
- Stanistreet, I.G., Le Blanc Smith, G., & Cadle, A.B.** 1980. Trace fossils as sedimentological and palaeoenvironmental indices in the Ecca Group (Lower Permian) of the Transvaal. *Transactions of the Geological Society of South Africa*, **83**: 333–344.
- Suhr, P.** 1989. Beiträge zur Ichnologie des Niederlausitzer Miozäns. *Freiberger Forschungshefte, C* **436**: 93–101.
- Taylor, A.M. & Gawthorpe, R.L.** 1993. Application of sequence stratigraphy and trace fossil analysis to reservoir description: examples from the Jurassic of the North Sea. Pp. 317–335 in Parker, J.R. (Ed.), *Petroleum geology of Northwest Europe: proceedings of the 4th conference*. The Geological Society, London.
- Woodland, A.W., Archer, A.A. & Evans, W.B.** 1957. Recent boreholes in the Lower Coal Measures below the Gellideg Lower Pumpquart Coal horizon in South Wales. *Bulletin of the Geological Survey of Great Britain*, **13**: 39–60.
- Yang, B., Dalrymple, R.W., Chun, S., Johnson, M.F. & Lee, H.** 2008. Tidally modulated storm sedimentation on open-coast tidal flats, southwestern coast of Korea: distinguishing tidal-flat from shoreface storm deposits. Pp. 161–176 in Hampson, G.J. (Ed.), *Recent advances in models of siliciclastic shallow-marine stratigraphy*, vol. 90. SEPM Special Publication.
- Yang, B., Dalrymple, R.W., Gingras, M.K., Chun, S. & Lee, H.** 2007. Up-estuary variation of sedimentary facies and ichnocoenoses in an open-mouthed, macrotidal, mixed-energy estuary, Gomso Bay, Korea. *Journal of Sedimentary Research*, **77**: 757–771.
- Zonneveld, J.-P. & Gingras, M.K.** 2013. The ichnotaxonomy of vertically oriented, bivalve-generated equilibrichnia. *Journal of Paleontology*, **87**: 243–253.
- Zonneveld, J.-P., Gingras, M.K., Pemberton, S.G.** 2001. Trace fossil assemblages in a Middle Triassic mixed siliciclastic-carbonate marginal marine depositional system, British Columbia. *Palaeogeography, Palaeoclimatology, Palaeoecology*, **166**: 249–276.

Acknowledgement of receipt of this application was published in BZN 71: 70.

Comments on this case are invited for publication (subject to editing) in the *Bulletin*; they should be sent to the Executive Secretary, I.C.Z.N., c/o Natural History Museum, Cromwell Road, London SW7 5BD, U.K. (e-mail: iczn@nhm.ac.uk).